

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (withdrawn) An isolated nucleic acid molecule, preferably encoding a fibrinogen-binding-polypeptide, comprising a nucleic acid sequence which is selected from the group comprising:

- a) a nucleic acid having at least 70% identity to a nucleic acid sequence which is selected from the group comprising SEQ ID NO 1 to SEQ ID NO 6.
- b) a nucleic acid which is essentially complementary to the nucleic acid of a),
- c) a nucleic acid which anneals under stringent hybridization conditions to the polynucleotide of a) or b) and
- d) a nucleic acid which, but for the degeneracy of the genetic code, would hybridize to the nucleic acid defined in a), b) or c).

2. (withdrawn) An isolated nucleic acid molecule, preferably encoding an adhesion factor or a fragment thereof, comprising a nucleic acid sequence which is selected from the group comprising

- a) a nucleic acid having at least 70% identity to a nucleic acid sequence set forth in SEQ ID NO:7, SEQ ID NO:8, SEQ ID NO:9 or SEQ ID NO:10.
- b) a nucleic acid which is essentially complementary to the nucleic acid of a),
- c) a nucleic acid comprising at least 15 sequential bases of the nucleic acid of a) or b),
- d) a nucleic acid which anneals under stringent hybridisation conditions to the nucleic acid of a), b) or c) and
- e) a nucleic acid which, but for the degeneracy of the genetic code, would hybridize to the nucleic acid defined in a), b), c) or d).

3. (withdrawn) The isolated nucleic acid molecule according to claim 1 or 2, whereby the identity is at least 80 %, preferably at least 90 %, more preferably 100 %.

4. (withdrawn) The isolated nucleic acid molecule according to claim 1 or 2, whereby the nucleic acid molecule encodes a fibrinogen-binding-protein comprising at least one repeat of an amino acid motif comprising 16 amino acids.

5. (withdrawn) The isolated nucleic acid molecule according to claim 4, whereby the encoded fibrinogen-binding protein comprises 19 repeats of the amino acid motif.

6. (withdrawn) The isolated nucleic acid molecule according to claim 1 or 2, whereby the nucleic acid molecule encodes an adhesion factor which interacts with epithelial cells.

7. (withdrawn) An isolated nucleic acid molecule encoding for a polypeptide whereby the polypeptide comprises an amino acid motif, whereby the amino acid motif is G-N/S/T-V-L-A/E/M/Q-R-R-X-K/R/W-A/D/E/N/Q-A/F/I/L/V/Y-X-X-K/R-X-X (SEQ ID NO 222).

8. (withdrawn) The nucleic acid according to claim 1 or 2, wherein the nucleic acid is DNA, RNA or mixtures thereof.

9. (withdrawn) A vector comprising a nucleic acid molecule according to claim 1 or 2.

10. (withdrawn) The vector according to claim 9, wherein the vector is an expression.

11. (withdrawn) A host cell, comprising the vector according to claim 9.

12. (withdrawn) fibrinogen-binding-polypeptide or an adhesion factor, or biologically active fragment thereof encoded by the nucleic acid molecule according to claim 1 or 2.

13. (presently amended) A fibrinogen-binding-polypeptide [[or an adhesion factor,]] comprising the amino acid sequence selected from the group consisting of SEQ ID NO:11 to 20.

14. (presently amended) A fibrinogen-binding-polypeptide [[or an adhesion factor,]] comprising the amino acid sequence selected from the group consisting of SEQ ID NO:113 to 205.

15. (cancelled)

16. (cancelled)

17. (cancelled)

18. (withdrawn) A pharmaceutical composition comprising the polypeptide or a fragment thereof of claim 38 or the nucleic acid molecule of claim 7.

19. (withdrawn) The pharmaceutical composition according to claim 18, further comprising an immunostimulatory substance selected from the group consisting of polycationic

polymers, immunostimulatory deoxynucleotides (ODNs), synthetic KLK peptides, neuroactive compounds, alumn, Freund's complete or incomplete adjuvants and combinations thereof.

20. (withdrawn) The pharmaceutical composition of claim 18 for treating a bacterial infection.

21. (withdrawn) An antibody, or antigen-binding part thereof, which specifically binds to the polypeptide of claim 38.

22. (withdrawn) The antibody according to claim 21, selected from the group consisting of monoclonal antibodies, polyclonal antibodies, chimeric antibodies, humanized antibodies and fragments of each thereof.

23. (cancelled)

24. (withdrawn) A pharmaceutical composition comprising the antibody according to claim 21 or 22 .

25. (withdrawn) A method for identifying an antagonist capable of reducing or inhibiting the activity of the polypeptide or fragment thereof according to claim 38 or which is capable of binding to the polypeptide according to claim 38 comprising:

a) contacting an isolated or immobilized polypeptide according to claim 38 or a fragment thereof with a candidate antagonist under conditions to permit binding of said candidate antagonist to said polypeptide or fragment thereof, in the presence of a component capable of providing a detectable signal in response to the binding of the candidate antagonist to said polypeptide or fragment thereof; and

b) detecting the presence or absence of a signal generated in response to the binding of the antagonist to the polypeptide or fragment thereof, preferably the presence of a signal indicating a compound capable of inhibiting or reducing the activity of the polypeptide or fragment thereof.

26. (withdrawn) A method for identifying an antagonist capable of reducing or inhibiting the activity of a polypeptide or a fragment thereof according to claim 38 comprising:

a) providing the polypeptide according to claim 38 or a fragment thereof,
b) providing an interaction partner of the polypeptide according to claim 38.
c) providing a candidate antagonist,

d) reacting the polypeptide, the interaction partner of the polypeptide and the candidate antagonist, and

e) determining whether the candidate antagonist inhibits or reduces the activity of the polypeptide.

27. (withdrawn) A method for identifying an antagonist capable of reducing or inhibiting the interaction activity of the polypeptide according to claim 38 or a fragment thereof to its interaction partner comprising:

a) providing the polypeptide according to claim 38 or a fragment thereof,
b) providing an interaction partner to said polypeptide or a fragment thereof,
c) allowing interaction of said polypeptide or fragment thereof to said interaction partner to form an interaction complex,

d) providing a candidate antagonist,
e) allowing a competition reaction to occur between the candidate antagonist and the interaction complex, and

f) determining whether the candidate antagonist inhibits or reduces the interaction activities of the polypeptide or the fragment thereof with the interaction partner.

28. (withdrawn) An antagonist of the method according to claim 26 or 27.

29. (withdrawn) A process for *in vitro* diagnosis of a bacterial infection comprising the step of determining the presence of the nucleic acid molecule of claim 7, or of the polypeptide according to claim 38.

30. (withdrawn) A process for *in vitro* diagnosing a disease related to expression of the polypeptide of claim 38 or a fragment thereof, comprising determining the presence of a nucleic acid sequence encoding said polypeptide or a fragment thereof.

31. (withdrawn) An affinity device comprising a support material and immobilized to said support material the polypeptide according to claim 38 or the nucleic acid molecule according to claim 7.

32. (cancelled)

33. (cancelled)

34. (cancelled)

35. (withdrawn) An aptamer or spiegelmer which binds to the polypeptide of claim 38.

36. (cancelled)

37. (withdrawn) A ribozyme, antisense nucleic acid or siRNA which binds to the nucleic acid of claim 7.

38. (withdrawn) An isolated polypeptide comprising G-N/S/T-V-L-A/E/M/Q-R-R-X-K/R/W-A/D/E/N/Q-A/F/I/L/V/Y-X-X-K/R-X-X (SEQ ID NO:222) or a derivative thereof which binds to a Group B streptococcus.

39. (withdrawn) The isolated polypeptide of claim 38, comprising at least two copies of SEQ ID NO:222.

40. (withdrawn) The isolated polypeptide of claim 39, comprising 19 copies of SEQ ID NO:222.

41. (withdrawn) The isolated polypeptide of claim 38, which comprises an adhesion molecule.

42. (withdrawn) The isolated polypeptide of claim 38, wherein said adhesion molecule interacts with epithelial cells.

43. (withdrawn) The isolated polypeptide of claim 42, wherein said epithelial cells are human.

44. (withdrawn) The isolated polypeptide of claim 38, having fibrinogen-binding activity.

45. (withdrawn) The isolated polypeptide of claim 38, having adhesion activity.

46. (withdrawn): A vector comprising a nucleic acid molecule encoding the isolated polypeptide of claim 38.

47. (withdrawn): The vector of claim 46, wherein said vector is an expression vector.

48. (withdrawn): A cell comprising the vector of claim 46 or 47.

49. (withdrawn) The method of claim 26 or 27 wherein the interaction partner is an antibody.

50. (New) The fibrinogen-binding-polypeptide of claim 13 comprising the amino acid sequence of SEQ ID NO: 11 or SEQ ID NO: 12.

51. (New) The fibrinogen-binding-polypeptide of claim 13 comprising the amino acid sequence of SEQ ID NO: 13 or SEQ ID NO:14.

52. (New) The fibrinogen-binding-polypeptide of claim 13 comprising the amino acid sequence of SEQ ID NO: 15 or SEQ ID NO: 16.

53. (New) The fibrinogen-binding-polypeptide of claim 13 comprising the amino acid sequence of SEQ ID NO: 17 or SEQ ID NO:18.

54. (New) The fibrinogen-binding-polypeptide of claim 13 comprising the amino acid sequence of SEQ ID NO: 19 or SEQ ID NO: 20.

55. (New) The fibrinogen-binding-polypeptide of claim 14 comprising the amino acid sequence of SEQ ID NO: 113.